

REMARKS

This Amendment is in response to the final Office Action mailed 26 April 2007 in which claims 1-16 and 28-40 are indicated as withdrawn from consideration and pending claims 17-27 stand rejected.

Upon entry of this Amendment, independent claim 17 and dependent claim 23 are amended, no claims are canceled, and no new claims added.

Entry and favorable consideration of this Amendment is earnestly solicited, which is intended to place the application in condition for allowance without introducing new issues requiring additional search or consideration by the Examiner.

The following remarks are respectfully submitted.

I. Rejections under 35 USC §112

Applicants herewith update the status of the formerly co-pending application listed on page 1 of the written description.

II. Rejections under 35 USC §103

Claims 17, 18, and 20-27 stand rejected under 35 USC §103(a) as allegedly being unpatentable over the '428 patent to Obel et al. (Obel) in view of the '326 patent to Collins (Collins).

With this Amendment, each of the independent claims 1, 17, and 28-33 have been amended to define a method or an apparatus which treats a patient to improve cardiac performance and efficiency of the patient's heart through the use of both electrical nerve stimulation to improve balance of a neuro-

endocrinological system and the delivery of a cardiac resynchronization pacing therapy to the patient's heart to improve cardiac output. In the independent claim, the CRT pacing therapy delivered to improve cardiac output. CRT therapy is discussed many times in the application as filed as a specific therapy provided to improved or increased cardiac output.

The notion of delivering CRT to improve cardiac performance (e.g., hemodynamics) and efficiency (e.g., balance between supply and demand and balance within the neuro-endocrinological systems) of a patient's heart is not taught or suggested by Obel or Collins.

Obel is directed to use of vagal stimulation to treat conditions of ischemia. Obel suggests the use of backup brady and tachycardia pacing therapies. (Obel, col. 6, line 66-col. 7, line 2). Obel does not suggest a combined use of electrical nerve stimulation and CRT pacing therapy that increase cardiac output to achieve improved cardiac performance and efficiency.

Collins discloses an antiarrhythmia pacemaker that delivers antiarrhythmia therapy using both electrical stimulation of the heart and electrical stimulation of the autonomic nervous system. Collins does not, however, teach the use of nerve stimulation and CRT pacing therapies, which together achieve improved cardiac performance and efficiency. The objective of the particular pacing and nerve stimulation delivered in Collins is to detect and treat arrhythmias in a patient's heart.

As amended, independent claim 17, as well as the claims dependent therefrom are neither taught nor suggested by Obel or Collins alone or in combination. Rejection under 35 USC § 103 has been overcome and should be withdrawn.

Claim 19 stands rejected under 35 USC § 103(a) as allegedly being unpatentable over Obel and Collins in view of the '187 patent to Adams (Adams).

As discussed above, the amendments to independent claim 17 have overcome the rejection based upon the combination of Obel and Collins.

Adams does not provide the teaching which is missing in Obel and Collins. Adams teaches the use of neuro stimulation to control pain during the time when a cardioversion/defibrillation shock is being delivered to a patient's heart. Adams is not concerned with a combination of nerve stimulation and CRT pacing therapies which together improve cardiac performance and efficiency of the patient's heart.

As a result of the amendments to independent claim 17, the rejection of dependent claim 19 under 35 USC § 103(a) has been overcome. The rejection should be withdrawn.

III. Conclusion

Applicants respectfully suggest that all pending claims are in condition for allowance and the Examiner is earnestly solicited to issue a notice of allowance in due course.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned attorney to attend to these matters. The Commissioner is authorized to charge any deficiencies and credit any overpayments to Deposit Account No. 13-2546.

Respectfully submitted,

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